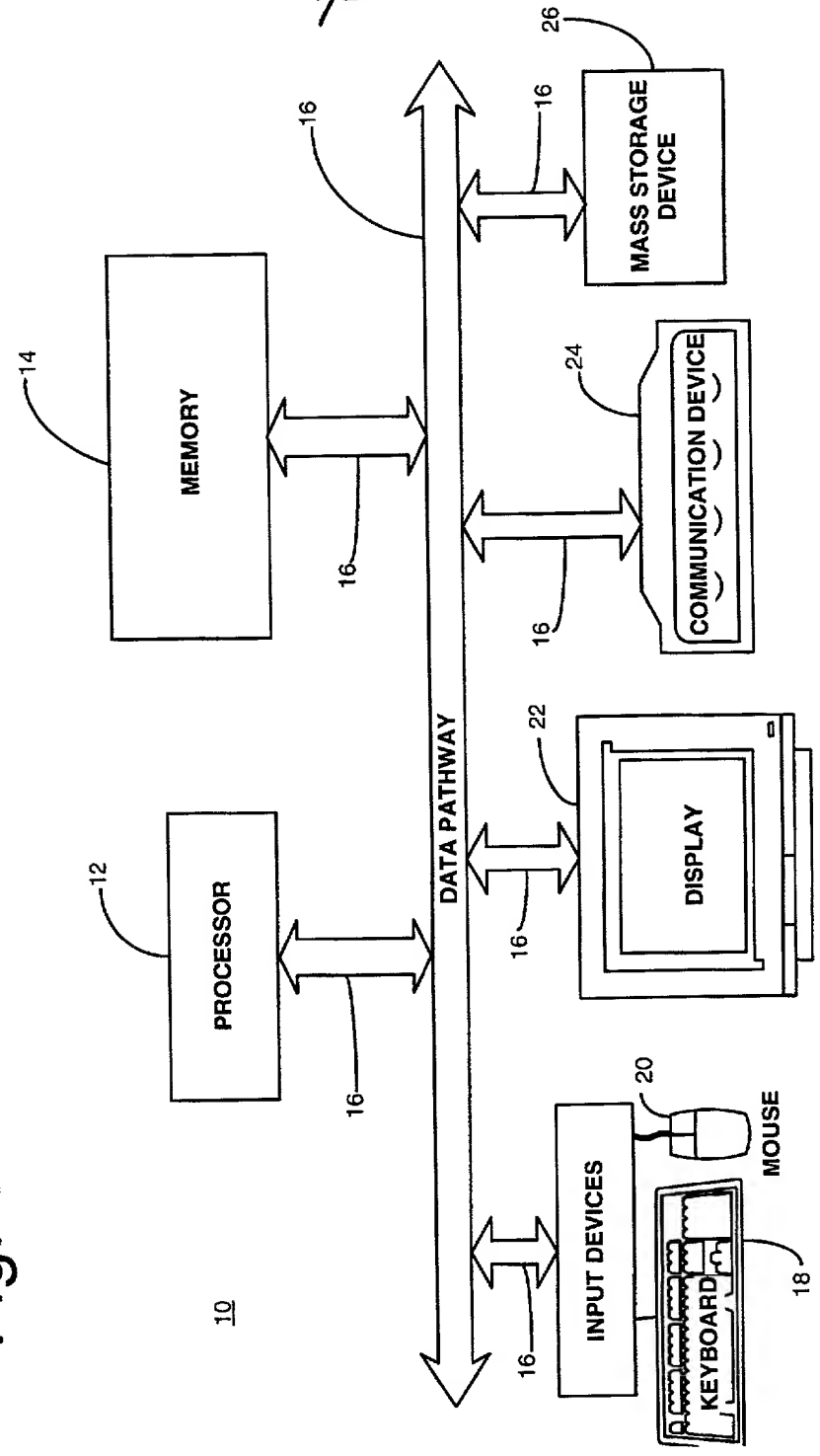
Fig. 1


10
PROCESSOR
12
MEMORY
14
DATA PATHWAY
16
INPUT DEVICES
KEYBOARD
MOUSE
18
20
DISPLAY
22
COMMUNICATION DEVICE
24
MASS STORAGE DEVICE
26

2/5

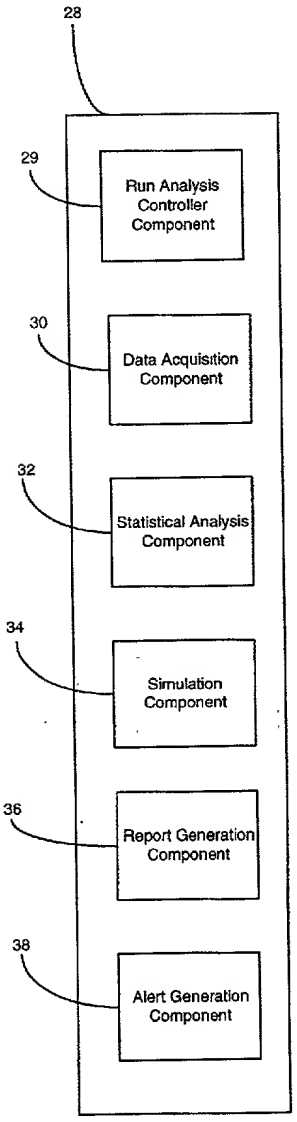

28
29
Run Analysis Controller Component
30
Data Acquisition Component
32
Statistical Analysis Component
34
Simulation Component
36
Report Generation Component
38
Alert Generation Component

Fig. 2

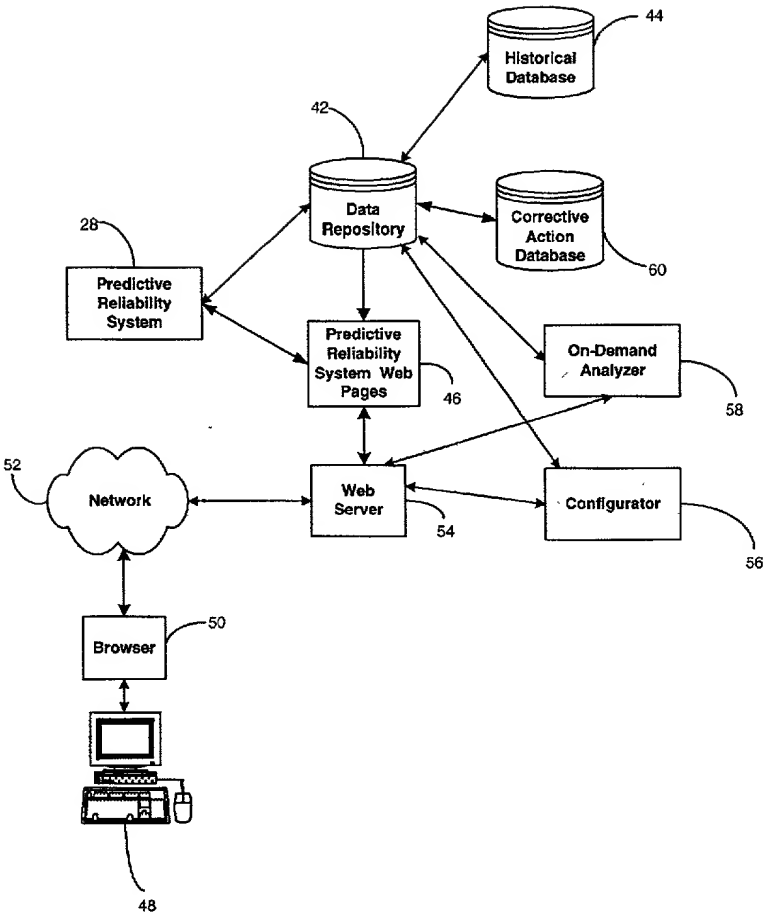

40
Historical Database
44
42
Data Repository
Corrective Action Database
60
28
Predictive Reliability System
Predictive Reliability System Web Pages
46
On-Demand Analyzer
58
52
Network
Web Server
54
Configurator
56
Browser
50
48

Fig. 3

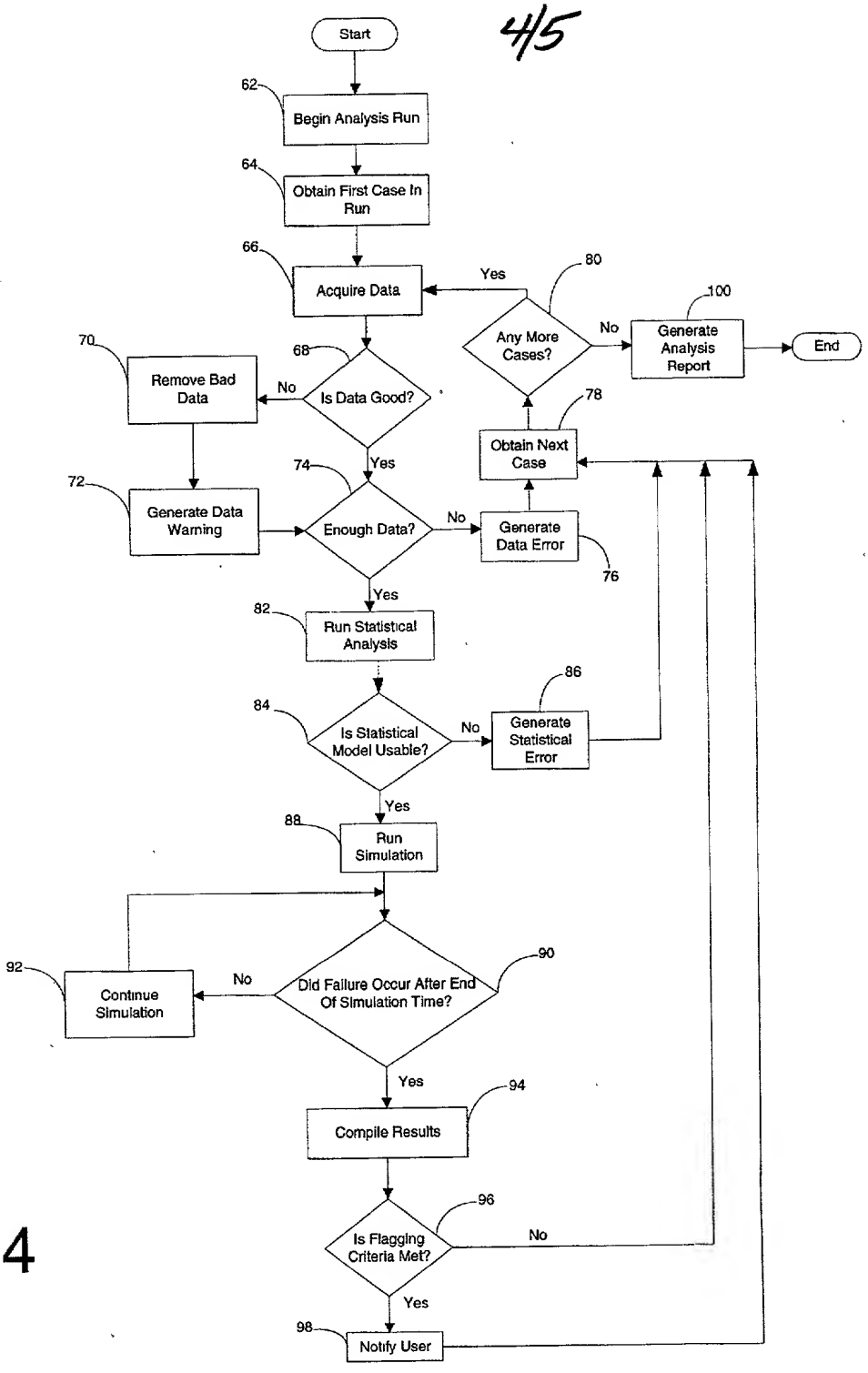
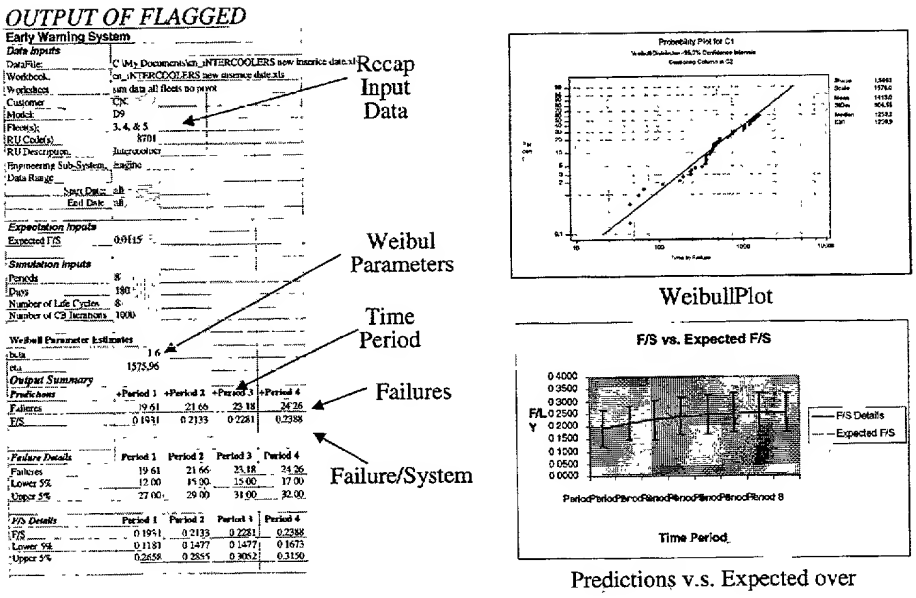

Start
62
Begin Analysis Run
64
Obtain First Case In Run
66
Acquire Data
Yes
80
Any More Cases?
No
100
Generate Analysis Report
End
70
Remove Bad Data
68
No
Is Data Good?
Yes
78
Obtain Next Case
72
Generate Data Warning
74
Enough Data?
No
Generate Data Error
76
Yes
82
Run Statistical Analysis
86
84
Is Statistical Model Usable?
No
Generate Statistical Error
Yes
88
Run Simulation
92
Continue Simulation
No
Did Failure Occur After End Of Simulation Time?
90
Yes
94
Compile Results
96
Is Flagging Criteria Met?
No
Yes
98
Notify User

Fig. 4



WeibullPlot

Predictions v.s. Expected over

Fig. 5